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EXAMINER

BHATTACHARYA, SAM

ART UNIT PAPER NUMBER

2687

DATE MAILED: 08/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/812,474

Applicant(s)

JELINEK, LENKA M.

Examiner

Sam Bhattacharya

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 15 March 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,5-11,13-19,22,23,25 and 26 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1,2,5-11,13-19,22,23,25 and 26 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1, 2, and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood, Jr. (U.S. 6,023,610) in view of Dowdle (US 4,509,039).

As to claim 1, Figure 1 in Wood, Jr. shows a set (10) comprising:

an RF transponder (16) to use with a toy ("the radio frequency data communications device 12 includes a transponder 16 having a receiver 30 and a transmitter 32." (Col. 3, lines 62-64). "The radio frequency data communication device 12 can be included in any appropriate housing or package" (Col. 4, lines 17-18). "There is a need for tag devices suitably configured to mount to a variety of objects including goods, items, persons, or animals, or substantially any moving or stationary and animate or inanimate object" (Col. 2, lines 6-9));

at least two antennas (X1, X2) to emit detection signals to the RF transponder ("the interrogator (26) communicates with the transponder 16 via the RF antennas X1, X2, ... , R1, R2 ... , etc." (Col. 10, lines 21-23)); and

a multiplexer (78, Figure 7) coupled to the two antennas to activate a first one of the antennas at a different time interval than a second one of the antennas ("the RF circuitry 54 further includes a diversity switch 78, coupled to the power amplifier 76, for transmission of the amplified signal through a selected one of the two transmit antennas X1 and X2" (Col. 13, lines

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29-32). "When the interrogator attempts communication with a transponder 16, the interrogator will first attempt communications using the data at the top of the queue 90; i.e., in the embodiment shown in FIG. 8, the interrogator will first attempt to use an antenna pair represented by data in the first or top row of the stack 90 (e.g., using transmit antenna X1 and receive antenna R1 in the illustrated embodiment). If successful communication is not established, the interrogator 26 will attempt communication using the antenna pair represented by data in the second row of the stack 90 (e.g., using transmit antenna X1 and receive antenna R2). If successful communication is still not established, the interrogator 26 will attempt communication using the antenna pair represented by data in the third row of the stack 90 (e.g., using transmit antenna X2 and receive antenna R1)" (Col. 14, lines 36-51). "Each attempt takes time. For example, in one embodiment, each attempt takes 20-40 milliseconds. Thus, in the illustrated embodiment, attempt 1 and attempt 2 fail, so 40-80 milliseconds are lost" (Col. 15, lines 4-7)).

The Wood, Jr. reference does not expressly disclose the antennas are coil antennas, wherein the coil antennas have single turn coils. The Dowdle reference teaches the antennas are coil antennas, wherein the coil antennas have single turn coils (col. 2, lines 27-32).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the set of Wood, Jr. wherein the antennas are coil antennas, and the coil antennas have single turn coils, as taught by Dowdle, in order to have easy detection of an accessed object.

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As to claim 2, the Wood, Jr. reference discloses the set of claim 1, wherein the multiplexer is to activate periodically the first and the second antennas (see Col. 14, lines 36-51 and Col. 15, lines 4-7).

As to claim 5, the Wood, Jr. reference discloses the set of claim 1, wherein each of the antennas has a main axis, and the antennas are oriented such that their respective main axes are not parallel to each other ("in one embodiment, the transmit antenna X2 is oriented at an angle different from the angle of the transmit antenna X1" (Col. 14, lines 27-29)).

As to claim 6, the Wood, Jr. reference discloses the set of claim 1, wherein each of the antennas has a main axis, and the antennas are oriented such that their respective main axes are substantially parallel to each other ("in a more particular embodiment, the transmit antenna X1 is spaced apart from the transmit antenna X2 by a distance of between one wavelength and ten wavelengths" (Col. 14, lines 19-22). See also Figure 1).

As to claim 7, the Wood, Jr. reference discloses the set of claim 1, wherein each of the antennas has a main plane, and the antennas are oriented such that their respective main planes are substantially parallel to each other, but they do not belong in the same plane ("in a more particular embodiment, the transmit antenna X1 is spaced apart from the transmit antenna X2 by a distance of between one wavelength and ten wavelengths" (Col. 14, lines 19-22). See also Figure 1).

As to claim 8, the Wood, Jr. reference discloses the set of claim 1, further comprising: a program adapted to determine which one of the two antennas receives a return signal from the RF transponder ("the host computer 48 includes an application program for controlling the interrogator 26 and interpreting responses, and a library of radio frequency identification device

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applications or functions” (Col. 5, lines 27-30). “A GetCrntAntenna function returns the current antenna set used to communicate with a device 12” (Col. 17, lines 59-60). “FIG. 8 illustrates a stack or queue 90 including locations holding data representing antennas X1, X2, R1, and R2. The stack or queue 90 defines an order in which antennas will be used to attempt communication” (Col. 13, lines 62-65)).

3. Claims 9-11, 18, 19, 22, 23, 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood, Jr. (U.S. 6,023,610) in view of Hum et al. (US 2003/012265 A1).

As to claims 9, 18 and 22, Figure 1 in Wood, Jr. shows a set (10) comprising:  
a toy figurine (12) including an RF transponder (“the radio frequency data communications device 12 includes a transponder 16 having a receiver 30 and a transmitter 32.” (Col. 3, lines 62-64). “The radio frequency data communication device 12 can be included in any appropriate housing or package” (Col. 4, lines 17-18). “There is a need for tag devices suitably configured to mount to a variety of objects including goods, items, persons, or animals, or substantially any moving or stationary and animate or inanimate object” (Col. 2, lines 6-9));

at least two antennas (X1, X2) to emit respective first and second detection signals at different times from each other (“when the interrogator attempts communication with a transponder 16, the interrogator will first attempt communications using the data at the top of the queue 90; i.e., in the embodiment shown in FIG. 8, the interrogator will first attempt to use an antenna pair represented by data in the first or top row of the stack 90 (e.g., using transmit antenna X1 and receive antenna R1 in the illustrated embodiment). If successful communication is not established, the interrogator 26 will attempt communication using the antenna pair

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represented by data in the second row of the stack 90 (e.g., using transmit antenna X1 and receive antenna R2). If successful communication is still not established, the interrogator 26 will attempt communication using the antenna pair represented by data in the third row of the stack 90 (e.g., using transmit antenna X2 and receive antenna R1)” (Col. 14, lines 36-51));

an antenna reader (26) to receive a return signal from the RF transponder responsive to one of the first and second detection signals (“the interrogator 26 transmits an interrogation signal or command 27 (“forward link”) via one of the antennas X1, X2, etc. The device 12 receives the incoming interrogation signal via its antenna 44. Upon receiving the signal 27, the device 12 responds by generating and transmitting a responsive signal or reply 29 (“return link”)” (Col. 5, lines 45-51)).

Wood, Jr. fails to disclose a program adapted to determine a location of the toy figurine on a play device. Hum et al. disclose a short-range communication system in which a position of a transponder, which can be attached to a toy, is communicated in response to an interrogation signal. (paragraph [0013], lines 17-22).

Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the set of Wood, Jr. by determining the location of a figurine on a device as taught by Hum et al. so that a user can decide to move the figurine to a more appropriate position if so desired.

As to claim 10, the Wood, Jr. reference (Figure 7) discloses the set, further comprising: an antenna driver (90) (“the stack or queue 90 defines an order in which antennas will be used to attempt communication” (Col. 13, lines 63-65)); and

a multiplexer (78) to receive a single antenna drive signal from the antenna driver, and to direct the antenna drive signal alternately between the first antenna and the second antenna to cause them to emit the first and second detection signals ("the RF circuitry 54 further includes a diversity switch 78, coupled to the power amplifier 76, for transmission of the amplified signal through a selected one of the two transmit antennas X1 and X2" (Col. 13, lines 29-32)).

As to claim 11, the Wood, Jr. reference discloses the set of claim 9, further comprising: a program adapted to determine an identity of the toy figurine ("an Identify function is used when attempting to determine the identification of one or more of the devices 12. Each device 12 has its own identification number "TagId". It is possible that the interrogator will receive a garbled reply if more than one tag responds with a reply. If replies from multiple tags are received, an arbitration scheme is used to isolate a single device 12" (Col. 16, lines 41-47)).

As to claims 19 and 25, the Wood, Jr. reference discloses the article of claim 18 and the method of claim 22, comprising:

determining a response characteristic of the return signal; and matching the determined response characteristic with a response characteristic stored in a memory ("an Identify function is used when attempting to determine the identification of one or more of the devices 12. Each device 12 has its own identification number "TagId". It is possible that the interrogator will receive a garbled reply if more than one tag responds with a reply. If replies from multiple tags are received, an arbitration scheme is used to isolate a single device 12" (Col. 16, lines 41-47). See also "Details of Arbitration" in Col. 18, line 21 to Col. 19, line 20).

As to claim 23, the Wood, Jr. reference discloses the method of claim 22, further comprising:



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receiving a single antenna drive signal; and multiplexing the antenna drive signal between the first antenna and the second antenna ("the stack or queue 90 defines an order in which antennas will be used to attempt communication" (Col. 13, lines 63-65). "The RF circuitry 54 further includes a diversity switch 78, coupled to the power amplifier 76, for transmission of the amplified signal through a selected one of the two transmit antennas X1 and X2" (Col. 13, lines 29-32). See also Figure 7).

As to claim 26, the Wood, Jr. reference discloses the method of claim 22, wherein multiplexing the antenna drive signal is performed periodically (see Col. 14, lines 36-51 and Col. 15, lines 4-7).

4. Claims 13, 14 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood, Jr. (U.S. 6,023,610) in view of Denne et al. (US 4,691,202).

As to claim 13, Figure 1 in Wood, Jr. shows a set for use with a program comprising:  
a play device (20);

at least two antennas (X1, X2) to emit respective first and second detection signals at different time intervals, the antennas positioned at first and a second antenna locations of the play device respectively ("the RF circuitry 54 further includes a diversity switch 78, coupled to the power amplifier 76, for transmission of the amplified signal through a selected one of the two transmit antennas X1 and X2" (Col. 13, lines 29-32). "When the interrogator attempts communication with a transponder 16, the interrogator will first attempt communications using the data at the top of the queue 90; i.e., in the embodiment shown in FIG. 8, the interrogator will first attempt to use an antenna pair represented by data in the first or top row of the stack 90

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(e.g., using transmit antenna X1 and receive antenna R1 in the illustrated embodiment). If successful communication is not established, the interrogator 26 will attempt communication using the antenna pair represented by data in the second row of the stack 90 (e.g., using transmit antenna X1 and receive antenna R2). If successful communication is still not established, the interrogator 26 will attempt communication using the antenna pair represented by data in the third row of the stack 90 (e.g., using transmit antenna X2 and receive antenna R1)” (Col. 14, lines 36-51));

a first toy to place on the play device including a first RF transponder to generate a first return signal in response to the first detection signal; and a second toy to place on the play device including a second RF transponder to generate a second return signal in response to the second detection signal (“in the embodiment illustrated in FIG. 1, multiple devices 12 can be employed; however, there is no communication between multiple devices 12. Instead, the multiple devices 12 communicate with the interrogator 26” (Col. 5, lines 62-65). “The radio frequency data communications device 12 includes a transponder 16 having a receiver 30 and a transmitter 32.” (Col. 3, lines 62-64). “The radio frequency data communication device 12 can be included in any appropriate housing or package” (Col. 4, lines 17-18). “There is a need for tag devices suitably configured to mount to a variety of objects including goods, items, persons, or animals, or substantially any moving or stationary and animate or inanimate object” (Col. 2, lines 6-9));

Wood, Jr. fails to disclose identifying a first return signal with a first toy and a second return signal with a second toy. Denne et al. disclose an identification system in which a plurality of transponders, which can be associated with different toys, transmit respective identification signals in response to a signal from an interrogator. (col. 1, lines 50-61).

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Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the set of Wood, Jr. by transmitting identification signals in a response from a transponder as taught by Denne et al. so that a user can determine whether each toy figurine is associated with the correct transponder.

As to claim 14, the Wood, Jr. reference (Figure 7) discloses the set, further comprising:  
an antenna driver (90) ("the stack or queue 90 defines an order in which antennas will be used to attempt communication" (Col. 13, lines 63-65)); and

a multiplexer (78) to receive a single antenna drive signal from the antenna driver, and to direct the antenna drive signal alternately between the first antenna and the second antenna to cause them to emit the first and second detection signals ("the RF circuitry 54 further includes a diversity switch 78, coupled to the power amplifier 76, for transmission of the amplified signal through a selected one of the two transmit antennas X1 and X2" (Col. 13, lines 29-32)).

As to claim 17, the Wood, Jr. reference discloses the set of claim 9, wherein the RF transponder is detachably connected to the toy figurine ("the radio frequency data communications device 12 includes a transponder 16 having a receiver 30 and a transmitter 32." (Col. 3, lines 62-64). "The radio frequency data communication device 12 can be included in any appropriate housing or package" (Col. 4, lines 17-18)).

5. Claims 15 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wood, Jr. (U.S. 6,023,610) in view of Denne et al. (US 4,691,202) and Hum et al. (US 2003/012265 A1).

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Claims 15 and 16 incorporate the limitations of claims 9 and 13, and are therefore rejected for the same reasons as claims 9 and 13.

*Response to Arguments*

1. Applicant's arguments filed on 3/15/05 have been fully considered but they are not persuasive.

Regarding claim 1, Applicant argues that Dowdle fails to make up for the deficiency in Wood because Dowdle teaches that only the receiving antenna includes a single turn coil while transmitting antennas use a figure 8 structure, whereas in claim 1, the two antennas emit detection signals. Applicant also argues against the combinability of Wood and Dowdle because one skilled in the art would not be motivated to modify Wood to include single turn coil antennas which are five feet tall.

Examiner respectfully disagrees. It is inherent that antennas can function as both transmitting and receiving antennas, and are not limited to just one of these functions or the other. Dowdle was introduced to teach antennas which are single turn coil antennas. Moreover, the size is not a critical element of the antennas, and they can be made smaller and they retain the single coil properties.

Regarding claims 2 and 26, Applicant argues that Wood does not teach multiplexing periodically first and second antennas.

Examiner respectfully disagrees. The antennas in Wood are multiplexed periodically because each attempt takes a set number of milliseconds, as stated at col. 15, lines 4-9.

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Regarding claims 9 and 22, Applicant argues that the cited references are not related to toys or play devices. Applicant does not find motivation in the references to make a toy set including a toy figurine on a play set. Applicant also argues that Hum makes reference to a toy or a transponder attached to a toy.

Examiner respectfully disagrees. The transponder 16 in Wood and communication device 12 is part of badge 13, which can be incorporated in or used as a toy, given the broadest reasonable interpretation of the term. Moreover, the background of Wood explains that tag devices are configured to mount various objects, including any moving or stationary and animate or inanimate object. See col. 2, lines 6-9. Toys fall under moving or stationary inanimate objects. In any event, it is not considered an inventive step to simply use these components in a toy figurine or play set. Since a transponder attached to a toy is already taught by Wood, it is not necessary for Hum to teach this limitation.

Regarding claim 18, Applicant argues that all the limitations of the claim have not been addressed, particularly "looking up a location of the antenna that received the return signal."

Examiner respectfully disagrees. Looking up the location of the antenna that received the return signal is the same as looking up the location of the transponder, which is taught by Hum et al., as explained in the rejection.

Regarding claim 13, Applicant argues that none of the cited references discloses a play device, a first toy to place on the play device, and a second toy to place on the play device, and that there is no motivation to make Wood or Denne into these devices. Applicant argues that Wood does not teach multiple devices in a single housing, but rather each device being associated with its housing. Applicant argues that Denne also makes no mention of toys, and

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therefore Denne does not teach a plurality of transponders, which can be associated with different toys, transmitting respective identification signals.

Examiner respectfully disagrees. As explained above, the transponder 16 in Wood and communication device 12 is part of badge 13, which can be incorporated in or used as a toy, given the broadest reasonable interpretation of the term. In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, although Denne does not mention toys, the transponders of Denne can be incorporated in the toy-badges of Wood. In response to applicant's arguments against the references individually, one cannot show nonobviousness by attacking references individually where the rejections are based on combinations of references. See *In re Keller*, 642 F.2d 413, 208 USPQ 871 (CCPA 1981); *In re Merck & Co.*, 800 F.2d 1091, 231 USPQ 375 (Fed. Cir. 1986). Accordingly, the combination of Wood and Denne meets the limitation of claim 13.

Regarding claims 15 and 16, Applicant argues that the limitations of these claims have not been addressed in the Office Action.

Examiner respectfully disagrees. The location of a toy figurine is addressed in the rejection of claim 9, which is referenced in the rejection of claims 15 and 16. Moreover, it is inherent that transponders can have different response characteristics for different applications.

*Conclusion*

2. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sam Bhattacharya whose telephone number is (571) 272-7917. The examiner can normally be reached on Weekdays, 9-6, with first Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lester G. Kincaid can be reached on (571) 272-7922. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

sb

  
**SONNY TRINH**  
**PRIMARY EXAMINER**